

Claim Listing

1. (Previously presented) A tampon comprising an absorbent material and a composition disposed in said absorbent material, the composition having:

at least one antibacterial agent in an amount of about 0.01 wt.% to about 5 wt.% of the total weight of the tampon; and

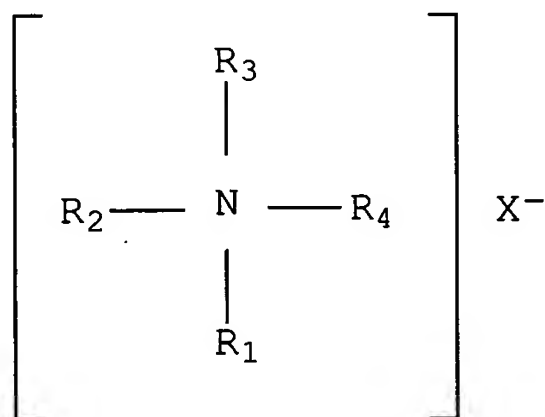
at least one finishing agent in an amount of about 0.01 wt.% to about 10 wt.% of the total weight of the tampon,

wherein the composition has synergistic antibacterial properties effective to neutralize the production of TSST-1 toxin and reduce *Staphylococcus aureus* bacteria growth.

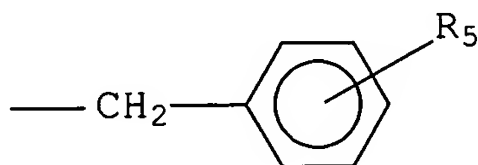
2. (Previously presented) The tampon of claim 1, wherein said at least one antibacterial agent is selected from the group consisting of: quaternary ammonium compound, glyceryl monolaurate, 5-chloro-2-(2,4-dichlorophenoxy)-2,4,4'-trichloro-2'-hydroxy diphenyl ether (triclosan), p-chloro-m-xlenol, N-(4-chlorophenyl)-N'-(3,4-dichlorophenyl) urea (triclocarban), 2-N-octyl-4-isothiazolin-3-one, iodine-based compounds, and any mixtures thereof.

3. (Previously presented) The tampon of claim 1, wherein said at least one antibacterial agent is one or more quaternary ammonium compounds.

4. (Previously presented) The tampon of claim 3, wherein said one or more quaternary ammonium compounds have a chemical structure:



wherein X is selected from the group consisting of: a halogen and a saccharinate; R₁ and R₃ is a straight or branched C₁-C₄ alkyl; R₂ is a straight or branched C₆-C₂₂ alkyl; and R₄ is of the chemical structure:



wherein R₅ is selected from the group consisting of: H, a straight or branched C₁-C₄ alkyl group, and a halogen.

5. (Previously presented) The tampon of claim 4, wherein said one or more quaternary ammonium compounds are selected from the group consisting of: alkyl dimethyl benzylammonium chloride, alkyl dimethyl ethylbenzylammonium chloride, myristyl dimethyl benzylammonium chloride, lauryl dimethyl ethylbenzylammonium chloride, alkyl dimethyl benzylammonium bromide, alkyl dimethyl benzylammonium cetyl phosphate, alkyl dimethyl benzylammonium saccharinate, and any mixtures thereof.

6. (Previously presented) The tampon of claim 4, wherein said one or more quaternary ammonium compounds are a mixture of alkyl dimethyl benzylammonium chloride and alkyl dimethyl ethylbenzylammonium chloride.

7. (Previously presented) The tampon of claim 6, wherein said one or more quaternary ammonium compounds are present in an amount of about 1.0 wt.% based on the total weight of the tampon.

8. (Canceled)

9. (Canceled)

10. (Previously presented) The tampon of claim 1, wherein said at least one finishing agent is one or more surfactants.

11. (Previously presented) The tampon of claim 10, wherein said one or more surfactants are selected from the group consisting of nonionic, anionic, cationic, amphoteric, and any mixtures thereof.

12. (Canceled)

13. (Previously presented) The tampon of claim 10, wherein said one or more surfactants are one or more nonionic surfactants.

14. (Previously presented) The tampon of claim 10, wherein said one or more nonionic surfactants are selected from the group consisting of one or more: alcohol ethoxylates, alkylphenol ethoxylates, carboxylic acid esters, ethoxylated anhydrosorbital esters, glycerol esters, poly(oxyethylene-co-oxypropylene) based surfactants, polyoxyethylene fatty acid amines, polyoxyethylene fatty acid esters, polyethylene glycol, polyethylene glycol esters, and any mixtures thereof.

15. (Previously presented) The tampon of claim 14, wherein said one or more nonionic surfactants are one or more polyoxyethylene fatty acid esters.

16. (Previously presented) The tampon of claim 15, wherein said polyoxyethylene fatty acid ester is present in an amount about 2.5 wt.% based on the total weight of the tampon.

17. (Canceled)

18. (Canceled)

19. (Previously presented) The tampon of claim 1, wherein said composition further comprises one or more additional components selected from the group consisting of: preservative, deodorant, fragrance, malodor counteractant material, humectant, and any combinations thereof.

20. (Previously presented) A method of inhibiting the production of TSST-1 toxin by exposing TSST-1 toxin-producing *Staphylococcus aureus* bacteria to a tampon, the tampon having an absorbent material and a composition, the composition comprising:

at least one antibacterial agent in an amount of about 0.01 wt.% to about 5 wt.% of the total weight of the tampon; and

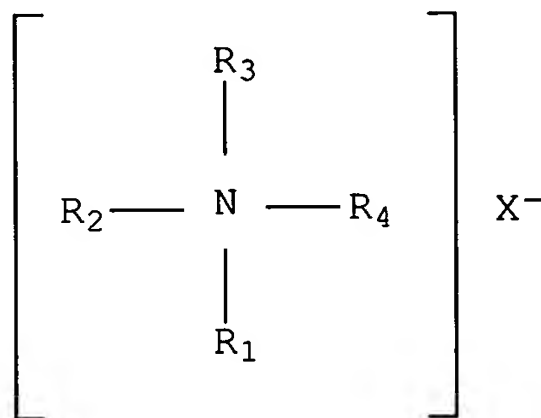
at least one finishing agent in an amount of about 0.01 wt.% to about 5 wt.% of the total weight of the tampon;

wherein the composition has synergistic antibacterial properties effective to neutralize the production of TSST-1 toxin and reduce *Staphylococcus aureus* bacteria growth.

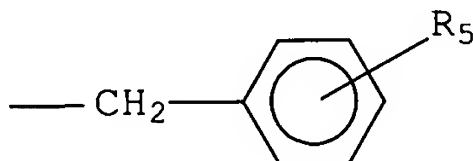
21. (Original) The method of claim 20, wherein said at least one antibacterial agent is selected from the group consisting of: quaternary ammonium compound, glyceryl monolaurate, 5-chloro-2-(2,4-dichlorophenoxy)-2,4,4'-trichloro-2'-hydroxy diphenyl ether (triclosan), p-chloro-m-xenol, N-(4-chlorophenyl)-N'-(3,4 dichlorophenyl) urea (triclocarban), 2-N-octyl-4-isothiazolin-3-one, iodine-based compounds, and any mixtures thereof.

22. (Previously presented) The method of claim 20, wherein said at least one antibacterial agent is one or more quaternary ammonium compounds.

23. (Original) The method of claim 22, wherein said one or more quaternary ammonium compounds has a chemical structure:



wherein X is selected from the group consisting of: a halogen and a saccharinate; R_1 and R_3 is a straight or branched C_1 - C_4 alkyl; R_2 is a straight or branched C_6 - C_{22} alkyl; and R_4 is of the chemical structure:



wherein R_5 is selected from the group consisting of: H, a straight or branched C_1 - C_4 alkyl group, and a halogen.

24. (Canceled)

25. (Previously presented) The method of claim 21, wherein said one or more quaternary ammonium compounds are selected from the group consisting of: alkyl dimethyl benzylammonium chloride, alkyl dimethyl ethylbenzylammonium chloride, myristyl dimethyl benzylammonium chloride, lauryl dimethyl ethylbenzylammonium chloride, alkyl dimethyl benzylammonium bromide, alkyl dimethyl benzylammonium cetyl phosphate, alkyl dimethyl benzylammonium saccharinate, and any mixtures thereof.

26. (Original) The method of claim 25, wherein said one or more quaternary ammonium compounds are a mixture of alkyl dimethyl benzylammonium chloride and alkyl dimethyl ethylbenzylammonium chloride.

27. (Previously presented) The method of claim 25, wherein said one or more quaternary ammonium compounds are present in an amount about 1.0 wt.% based on the total weight of the tampon.

28. (Canceled)

29. (Original) The method of claim 20, wherein said at least one finishing agent is one or more surfactants.

30. (Original) The method of claim 29, wherein said one or more surfactants are selected from the group consisting of: nonionic, anionic, cationic, amphoteric, and any mixtures thereof.

31. (Original) The method of claim 29, wherein said one or more surfactants are one or more nonionic surfactants.

32. (Original) The method of claim 31, wherein said one or more nonionic surfactants are selected from the group consisting of: alcohol ethoxylates, alkylphenol ethoxylates, carboxylic acid esters, ethoxylated anhydrosorbital esters, glycerol esters, poly (oxyethylene-co-oxypropylene) based surfactants, polyoxyethylene fatty acid amines, polyoxyethylene fatty acid esters, polyethylene glycol, polyethylene glycol esters, and any mixtures thereof.

33. (Original) The method of claim 32, wherein said one or more nonionic surfactants are one or more polyoxyethylene fatty acid esters.

34. (Previously presented) The method of claim 33, wherein said one or more polyoxyethylene fatty acid esters are present in an amount about 2.5 wt.% based on the total weight of the tampon.

35. (Canceled)

36. (Canceled)

37. (Canceled).

38. (Original) The method of claim 20, wherein said composition further comprises one or more additional components selected from the group consisting of: preservative, deodorant, fragrance, malodor counteractant material, humectant and any combinations thereof.